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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO.       |
|---|-------------|----------------------|-------------------------|------------------------|
| 10/630,955  | 07/30/2003  | Ankur Varma          | MS1-1485US              | 1789                   |
| 22801   | 7590        | 03/24/2008           |                         |                        |
| LEE & HAYES PLLC<br>421 W RIVERSIDE AVENUE SUITE 500<br>SPOKANE, WA 99201 |             |                      | EXAMINER<br>VO, TUNG T  |                        |
|   |             |                      | ART UNIT<br>2621        | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>03/24/2008 | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/630,955

**Applicant(s)**

VARMA, ANKUR

**Examiner**

Tung Vo

**Art Unit**

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 February 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-12 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 07/30/2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/CD/CD)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of claims 23-29 in the reply filed on 02/01/2008 is acknowledged.
2. Claims 1-22 and 30-51 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claims, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 02/01/2008.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 23-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Shu (US 5,757,976).

Re claim 23, Shu discloses a noise reduction engine (fig. 9), comprising:

a buffer for storing pixel values (906 of fig. 9);

a matrix selector (922, 920, 916 of fig. 1) for selecting dimensions of matrices (quantization has a matrix) for arranging the pixel values to represent regions of an image residue (904 of fig. 9, note when two widely disparate filters are sequentially employed during

the modified error diffusion process, the pixel detection and control circuit 904 further generates an appropriate control signal to modulate the threshold value at the pixels bordering these differing filtered areas); and  
a diffusion engine (930 and 960 of fig. 9) for reducing the magnitude of at least some of the pixel values and for reducing variability in the difference between adjacent pixel values in a subject matrix by diffusing magnitudes of pixel values into each other (936 of fig. 9).

Re claim 24, Shu further discloses an anchor value selector associated with the diffusion engine to select one of the pixel values in a given matrix as an unchanging diffusion boundary value for a diffusion process to be applied to pixel values in the matrix (Selecting FILTERS, 930A, 930B, and 930C of fig. 9).

Re claim 25, Shu further discloses an entropy calculator (960 of fig. 1) associated with the anchor value selector to select an anchor value based on an entropy value of one or more of the pixel values.

Re claim 26, Shu further discloses further comprising a scan pattern engine to apply a reversible diffusion function to a matrix of pixel values in an order (col. 2, lines 54-67).

Re claim 27, Shu further discloses an iteration manager to control an amount of diffusion to be applied to a matrix of pixel values by controlling a number of times that the reversible diffusion function is applied (904 of fig. 9).

Re claim 28, Shu further discloses a store of reversible diffusion functions suitable for different image residues (938 of fig. 9).

Re claim 29, Shu further discloses a reverse diffusion module to apply reverse diffusion using an anchor value (col. 2, lines 54-67).

5. Claim 21 is rejected under 35 U.S.C. 102(c) as being anticipated by Luo et al. (US 7,130,474).

Re claim 23, Luo discloses a noise reduction engine (fig. 1), comprising:

a buffer for storing pixel values (100 of fig. 1);

a matrix selector (260 and 270 of fig. 1, note Each of these regions is then converted (or quantized) to a single unique color value that is within the display palette, 240 and 250 of fig. 1) for selecting dimensions of matrices for arranging the pixel values to represent regions of an image residue ; and

a diffusion engine (140 of fig. 1, see also fig. 3) for reducing the magnitude of at least some of the pixel values and for reducing variability in the difference between adjacent pixel values in a subject matrix by diffusing magnitudes of pixel values into each other.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Maeda et al. (US 7,031,546) discloses Noise reduction method, noise reducing apparatus, medium, medium and program.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tung Vo/  
Primary Examiner, Art Unit 2621